

# Delving into the World Inside Prisons for Safety, Health, and Isolation\*

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This social science research focuses on the impact of prisons on crime rates and socioeconomic disparities. However, the penal institutions are often disregarded, creating a significant gap in understanding its true effect. This paper takes a look at the prison, their function in rehabilitation efforts, their role as setting for violence, healthcare provision, and the isolation experienced in solitary confinement. Recent studies indicate that fewer inmates are involved in programs now compared to the 1980's, and prisoners face more violence, sickness, and isolation. These conditions question if prisons are really treating people with dignity and respect, and how these acts will affect people who recently joined the society again.

## 1 Introduction

This paper explores how prisons impact crime and inequality. Prisons are often overlooked compared to other institutions such as schools or hospitals. We are focusing on the US, where the concept of “mass incarceration” is a big issue, in other words there are a lot of people in prison, especially Black men with limited education. This mostly happens due to strict laws against Black men and inequality that rise upon the issue. Researchers have studied incarceration in various angles, examining its effects on how prisons affect crime rates, labor markets, health outcomes, and family dynamics. Despite debates over rehabilitation, it is still hard for them to get jobs and be accepted in society. This paper takes a unique perspective, where we view US penal institutions as “total institutions” where individuals face constricted control and minimal autonomy. We are exploring key issues such as overcrowding, violence, health challenges, and the harsh realities of solitary confinement. By understanding what happens inside prisons, we can gain a deeper understanding of the problems of mass incarceration and work towards making things better. → We can add details after we decide what data and model we are going to use (Ex. Rate has increased 80% over 1990 to 2020)

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\*Code and data are available at: <https://github.com/siru1366/us-mass-incarceration.git>.

The remainder of this paper is structured as follows. Section 2....

## 2 Data

##Source The paper used for replication is “Inside the Box: Safety, Health, and Isolation in Prison,” which mainly analyzes the impact of prisons on safety and health, and specifically includes data from the new coronavirus pandemic.

Sourcebook of Criminal Justice Statistics, Bureau of Justice Statistics Report, Jail Inmates in 2018, U.S. Population FRED Data, World Prison Population Data, and Western B. and Pettit B data

### 2.1 Methodology

All data are not obtained directly through surveys or sampling statistics; rather, they are derived through meticulous processing and calculation based on pre-existing datasets.

mass incarceration.xlsx

incarceration 1925-2019

### 2.2 Features

mass incarceration.xlsx

incarceration 1925-2019 Year:1925-2019 Prison: integer number Prison rate per(100k) : easy to read and compare Jail Total Population Total Rate

world incarceration rates rate rate18

cumulative risk race :w(white) b(black) Lack of data on other ethnic minorities

education cohort risk

COVID-19 Cases in State and Federal Prison Systems.csv Prison System Incarcerated Tested Incarcerated Positive, Incarcerated Deaths, Staff Positive, Staff Deaths, Incarcerated Case rate per 1,000 Scrape Date Staff Case rate per 1,000 state

statepop.csv: sate abbreviation

all-states-history.csv:

## 2.3 Measurement:

Enrollment in Drug, Education, Job Training Programs, and Work Assignment, State Prisoners, by Region Original data comes from two prison questionnaires. For example, the sample for the 2004 survey was drawn from two different documents. The primary archive includes a list of 1,549 state prisons from the June 30, 2000, BJS 2000 Census of State and Federal Correctional Facilities. The secondary archive includes 36 prisons open between June 30, 2000, and April 1, 2003. The sampling design required a stratified two-stage selection process. In the initial phase, 14 male and 7 female facilities were identified based on the gender ratio within prisons. The remaining facilities are divided into 16 levels based on geographic region and the male and female population within each prison. The weighting procedure involves assigning each inmate a base weight and three adjustment factors to obtain the final weight for the survey. Data was collected through face-to-face interviews with prisoners using computer-assisted personal interviewing techniques.

Cumulative COVID-19 Case Rates among Those in Prison and General Population, by State: March 2020 to January 2021

## 3 Result

### 3.1 Over trend

Figure 1

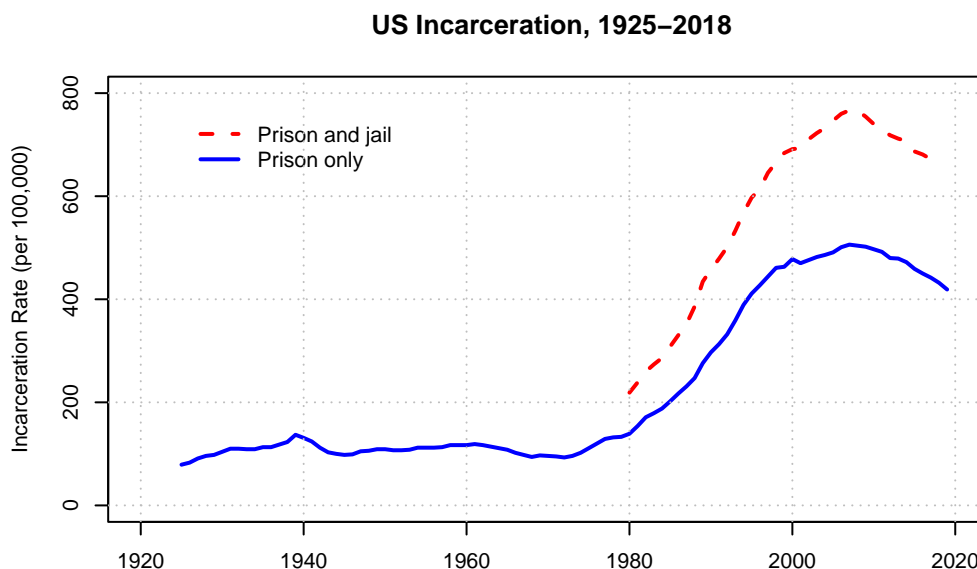


Figure 1: Relationship between wing length and width

Figure 2

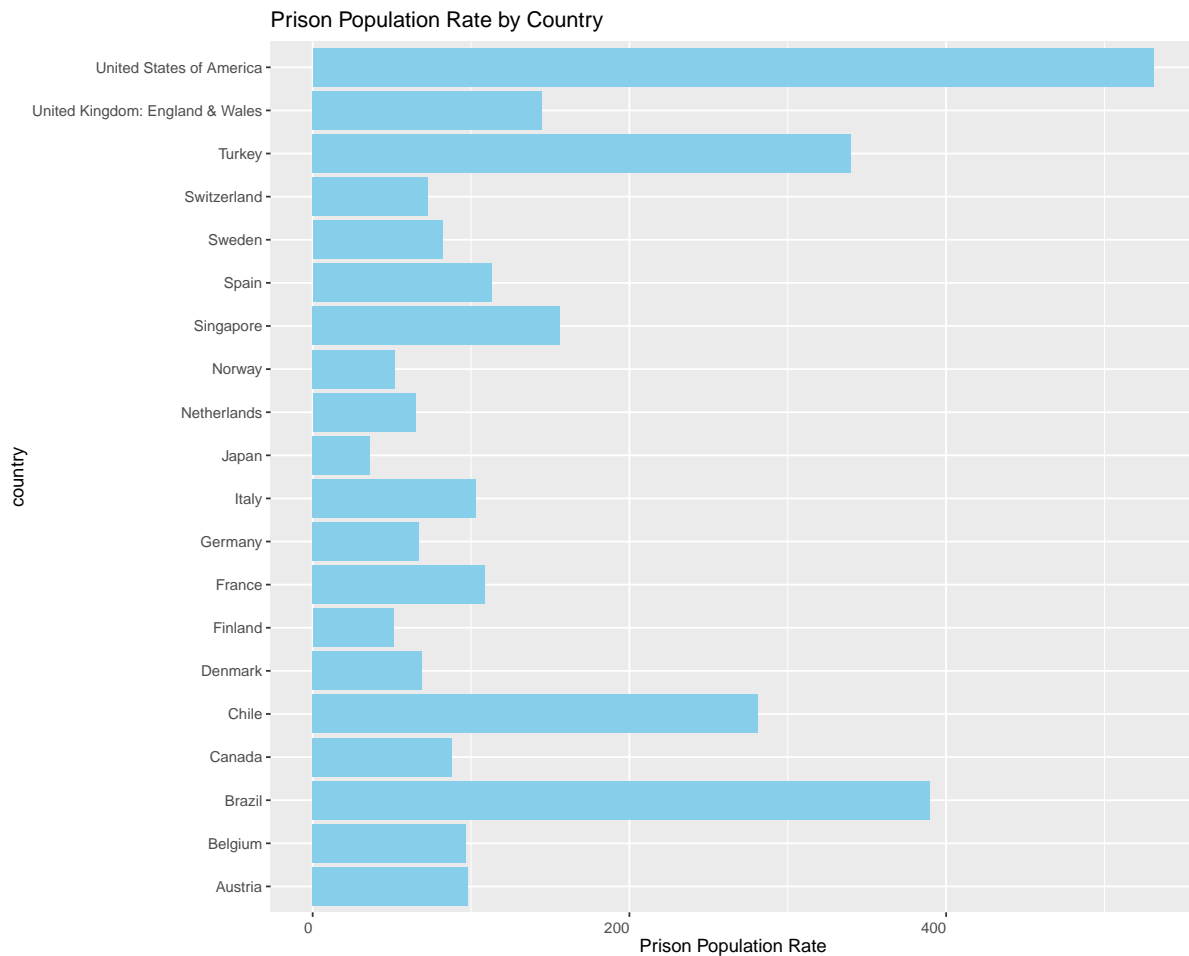


Figure 2: Relationship between wing length and width

Some of our data is of penguins (?@fig-bill), from Horst, Hill, and Gorman (2020).

And also planes (Figure 3). (You can change the height and width, but don't worry about doing that until you have finished every other aspect of the paper - Quarto will try to make it look nice and the defaults usually work well once you have enough text.)

Talk way more about it.

## 4 Model

The goal of our modelling strategy is twofold. Firstly,...

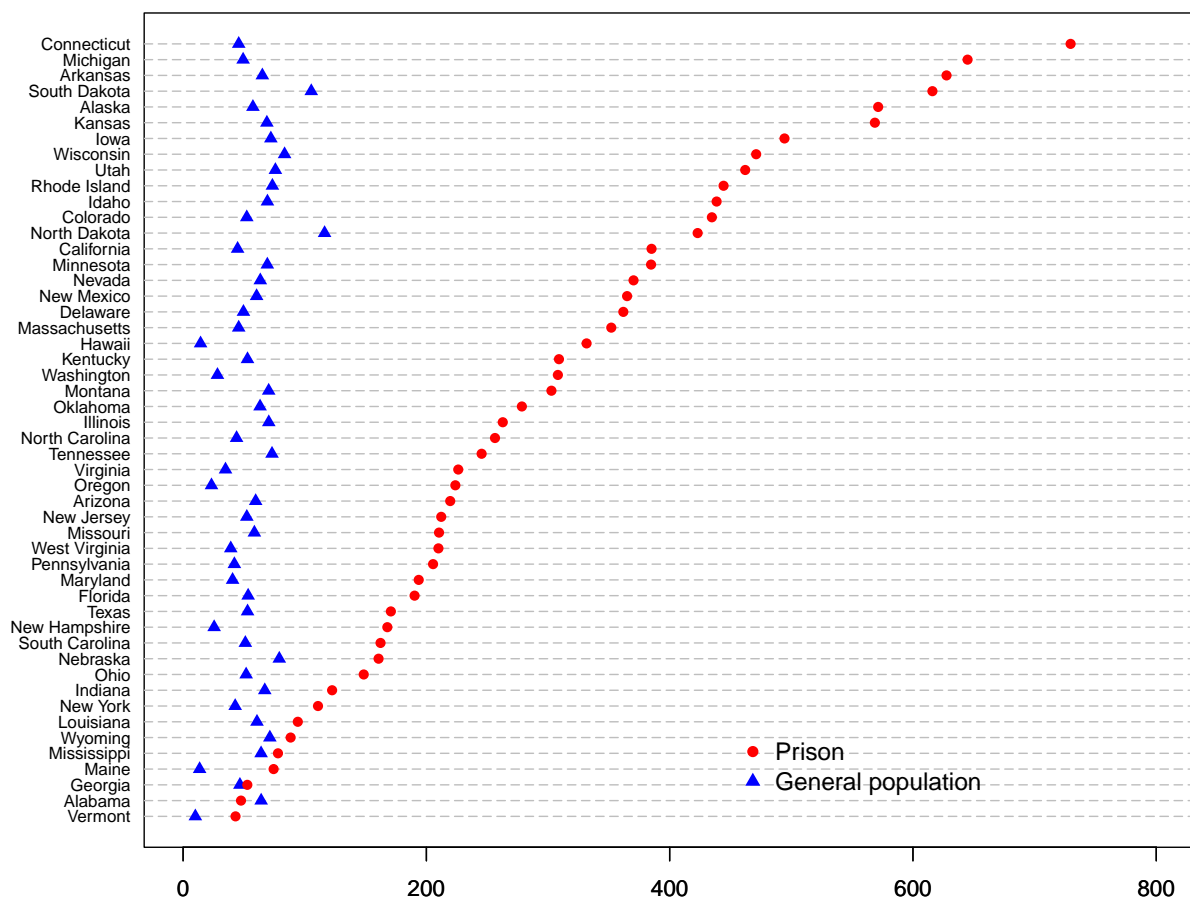


Figure 3: Relationship between wing length and width

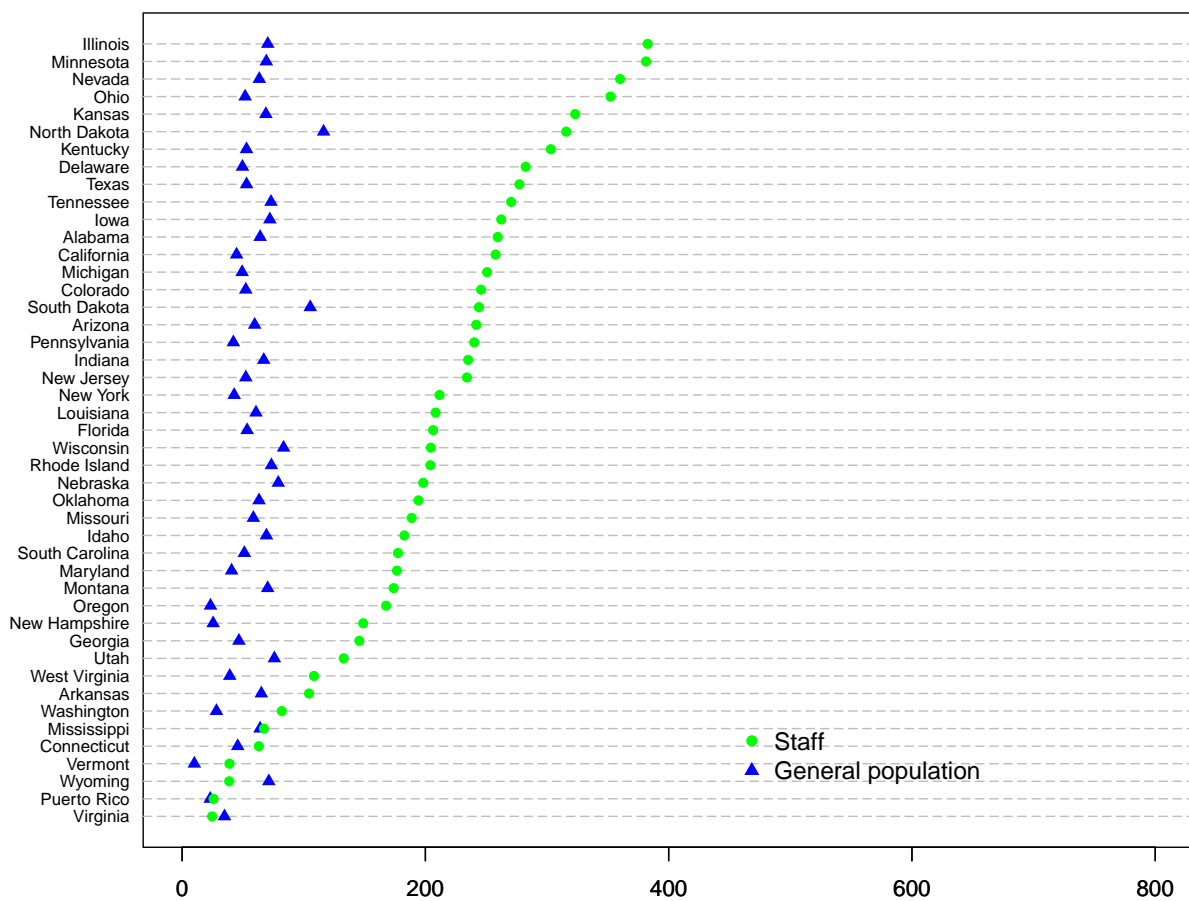


Figure 4: Bills of penguins

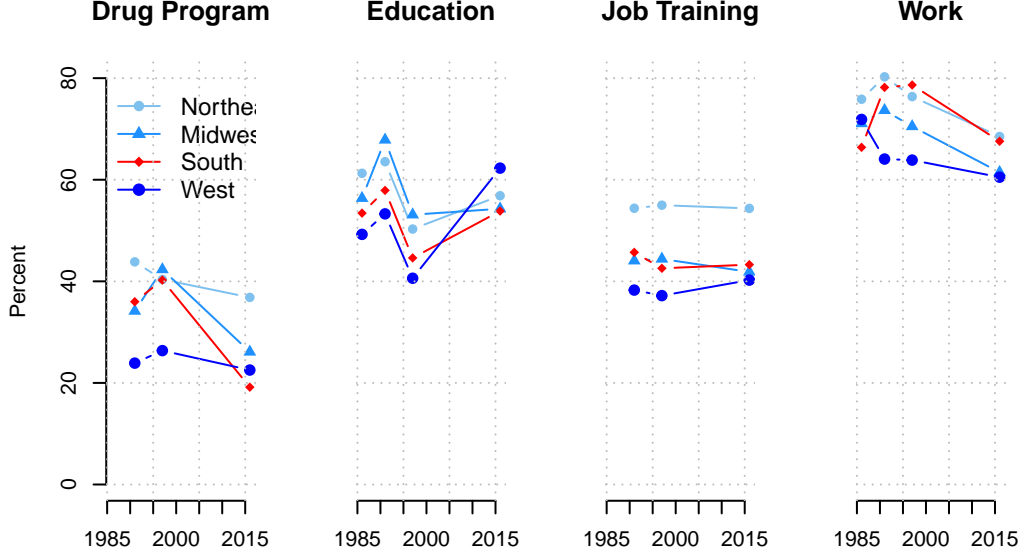


Figure 5: Relationship between wing length and width

Here we briefly describe the Bayesian analysis model used to investigate... Background details and diagnostics are included in Appendix B.

#### 4.1 Model set-up

Define  $y_i$  as the number of seconds that the plane remained aloft. Then  $\beta_i$  is the wing width and  $\gamma_i$  is the wing length, both measured in millimeters.

$$y_i | \mu_i, \sigma \sim \text{Normal}(\mu_i, \sigma) \quad (1)$$

$$\mu_i = \alpha + \beta_i + \gamma_i \quad (2)$$

$$\alpha \sim \text{Normal}(0, 2.5) \quad (3)$$

$$\beta \sim \text{Normal}(0, 2.5) \quad (4)$$

$$\gamma \sim \text{Normal}(0, 2.5) \quad (5)$$

$$\sigma \sim \text{Exponential}(1) \quad (6)$$

We run the model in R (R Core Team 2022) using the `rstanarm` package of Goodrich et al. (2022). We use the default priors from `rstanarm`.

#### **4.1.1 Model justification**

We expect a positive relationship between the size of the wings and time spent aloft. In particular...

We can use maths by including latex between dollar signs, for instance  $\theta$ .

## **5 Results**

Our results are summarized in `?@tbl-modelresults`.

## **6 Discussion**

### **6.1 First discussion point**

If my paper were 10 pages, then should be at least 2.5 pages. The discussion is a chance to show off what you know and what you learnt from all this.

### **6.2 Second discussion point**

### **6.3 Third discussion point**

### **6.4 Weaknesses and next steps**

Weaknesses and next steps should also be included.



## Appendix

### A Additional data details

### B Model details

#### B.1 Posterior predictive check

In `?@fig-ppcheckandposteriorvsprior-1` we implement a posterior predictive check. This shows...

In `?@fig-ppcheckandposteriorvsprior-2` we compare the posterior with the prior. This shows...

#### B.2 Diagnostics

`?@fig-stanareyouokay-1` is a trace plot. It shows... This suggests...

`?@fig-stanareyouokay-2` is a Rhat plot. It shows... This suggests...

## References

- Goodrich, Ben, Jonah Gabry, Imad Ali, and Sam Brilleman. 2022. “Rstanarm: Bayesian Applied Regression Modeling via Stan.” <https://mc-stan.org/rstanarm/>.
- Horst, Allison Marie, Alison Presmanes Hill, and Kristen B Gorman. 2020. *Palmerpenguins: Palmer Archipelago (Antarctica) Penguin Data*. <https://doi.org/10.5281/zenodo.3960218>.
- R Core Team. 2022. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing. <https://www.R-project.org/>.